Managing Financial Data in the Enterprise Environment

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Purpose of Presentation
Overview

- Enterprise Data Architecture
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    - Objectives
    - Data Integration / XML Standards/Coordination
    - Standard Agency Identifier
    - Standard Central Accounting Information

- Financial Accounting Library
    - Treasury Accounting Codes
    - Reference Source for Treasury Accounting Codes

Purpose of Presentation
Overview

- Collections Data Warehouse
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  - Architecture
  - Data Content – Format Types
  - Authoritativeness
  - Interfaces
  - Deposit Reporting and other CA$HLINK II Functions

Enterprise Data Architecture
Business Need

- Reduce the number of redundant functions in our legacy systems.

- Eliminate the occurrence of redundant data across the enterprise.

- Normalize financial data to accommodate intersystem operability.

- Significantly reduce agency and collection system touch points.

- Create a unified data architecture to incorporate collections, payments and intra-governmental transactions to support Governmentwide Accounting (GWA).

Enterprise Data Architecture
Driving Change

- Common framework or methodology to describe the data/information that supports our business lines has not been uniformly implemented.
- Need for a common method to share data.
- Without a common reference, data is easier to duplicate than integrate.
- Need to streamline/standardize the transaction reporting process and view of transactions.
- Data and information context is rarely defined in a centralized registry.
- New laws/issues result in continuous adding of requirements to existing databases/applications that cannot share data.

Enterprise Data Architecture
Objectives

- Ensure that FMS conforms to the intent of the OMB "FEA Data Reference Model" (OMB requirement).

- Establish a framework for managing data across applications and business lines.

- Establish standards for registering and documenting data.

- Establish a central place for cataloging or registering data.

- Establish an environment to support data warehouse and architected data marts.

- Support application systems interoperability through a common based data architecture.

- Standardize agency interfaces to FMS data resources.

Enterprise Data Architecture
Data Integration / XML Standards/Coordination

Both within FMS and across the Federal Government, there is a critical need to:

- coordinate data between business lines
- standardize with or harmonize data across the Federal Enterprise.
- develop and publish public registered XML schemas
- implement a standard repository of metadata across the enterprise
- develop XML Naming and Design rules for the enterprise
- develop metadata tag management applications
- implement principals of data reuse

Enterprise Data Architecture
Data Integration / XML Standards/Coordination

Adopt and Apply:

- A standard data modeling methodology,
- Consistent style of tag names,
- Consistent naming conventions,
- Consistent tag definitions,
- Managed and published XML artifacts for reuse,
- Documented code sets,
- Well-defined business model namespaces and
- Well-defined meta data.

- Working with CGAC, FMLOB, DFAS, BTA and LMI on issues
    surrounding standardization and XML coordination.
- Plans to work with the CIO Council and core.gov.

Enterprise Data Architecture
Standard Agency Identifier

- Agency Location Code (ALC) will still remain as the primary agency identifier for Treasury accounting purposes.

- Agencies require a more granular identification code to delineate information among offices or specific programs.

- Working with the Business Transformation Agency (BTA) and other agencies to assess the feasibility of establishing a standard, uniform organization identification code that will be used in conjunction with or cross-walked to an ALC both at the Agency as well as Treasury.

Enterprise Data Architecture
Standard Central Accounting Information

- In addition to the ALC, FMS will be utilizing Treasury Account Symbols (TAS) and Business Event Type Codes (BETC) to identify and classify all financial transactions reported to Treasury.

- The Shared Accounting Module (SAM) and the Transaction Reporting System (TRS) will be utilized to assist Federal Agencies in transitioning to TAS/BETC classification codes.

- TAS/BETC will be incrementally implemented for all collection deposit reporting, payment processing and intra-governmental transfers.

Financial Accounting Library
Treasury Accounting Codes

- Employing a service-oriented architecture, the Financial Accounting Library will be established as the authoritative source of government accounting codes for the Treasury Department.

- Utilizing various web services to interact with business systems and user clients, the internet based library will be available to accommodate HTTP transfers of accounting codes and relationships for payments, collections and intragovernmental transfers.

- TAS/BETC tables and General Ledger Accounting Codes will be available in XML, CSV and PDF formats.

- In the SAM application, ALC information in Excel, XML, CSV and PDF formats are currently available.

Financial Accounting Library
Reference Source for Treasury Accounting Codes

- The Financial Accounting Library will also maintain reference information concerning the accounting codes.

- References will include:
  - XML Schemas
  - Data Dictionaries
  - Metadata
  - Tag Definitions

Collections Data Warehouse
## Objectives

Transaction Reporting System (TRS)

- Will be the foundation for the collections business line enterprise architecture.
- Integrate collection transactions from all sources for Federal agencies and FMS.
- Provide access to near-current and historical financial data.
- Provide for statistical analyses of financial data.
- Store transaction data at the atomic level.
- Store and report summarizations of atomic data.
- Provide a single touch point for collection transaction reporting.
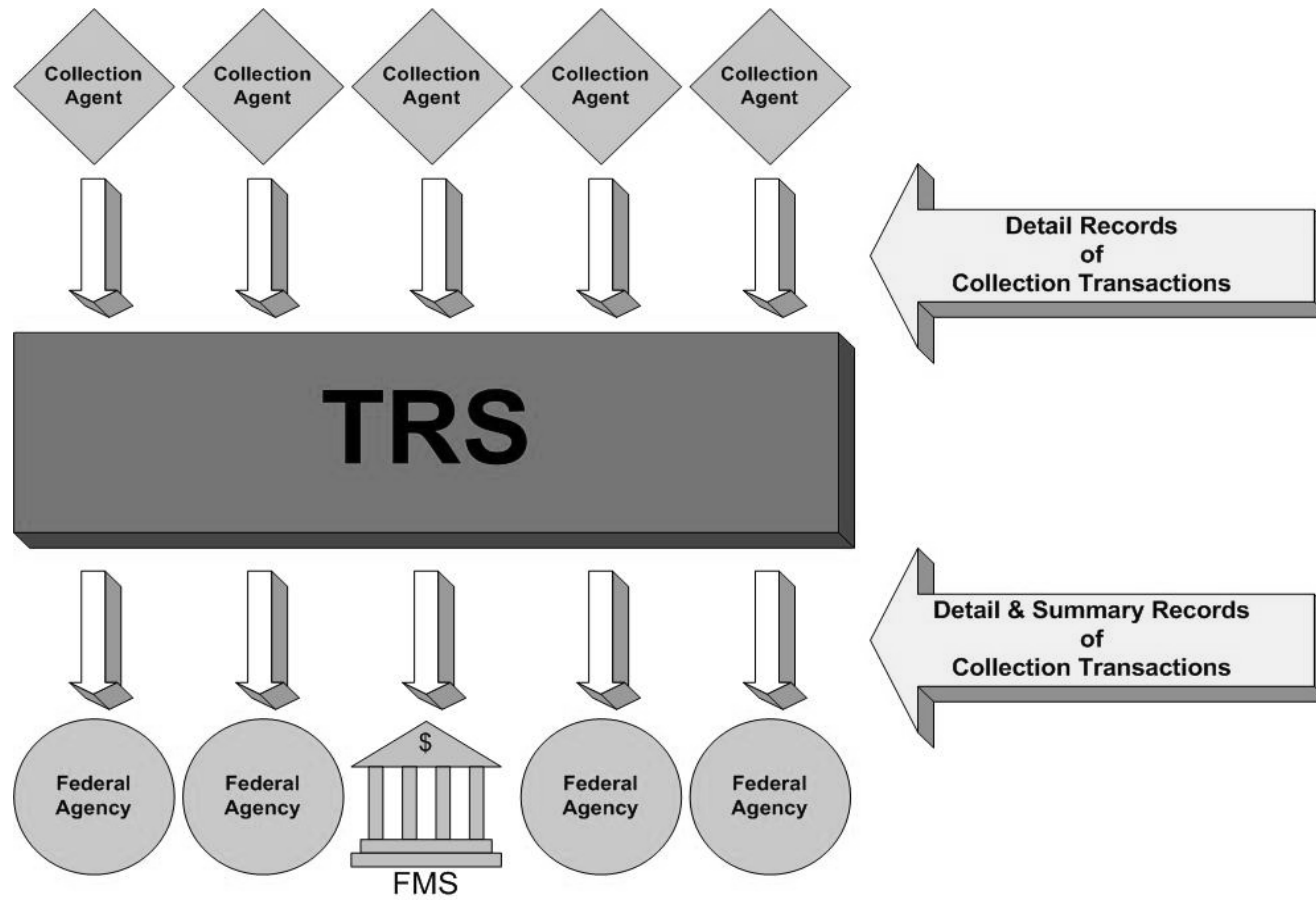
Collections Data Warehouse
Overview

- TRS will be the government-wide financial information transaction portal for all collections activity.

- As a centralized system, TRS will offer a suite of electronic information services and business intelligence tools that you can use to meet your financial management and reporting responsibilities.

- One system will provide Agencies with transaction images as well as transaction data at the atomic level.

- TRS will provide statistical and analytical reporting (i.e., Business Intelligence) on the financial aspects of all collections activity.

Current Information Flow
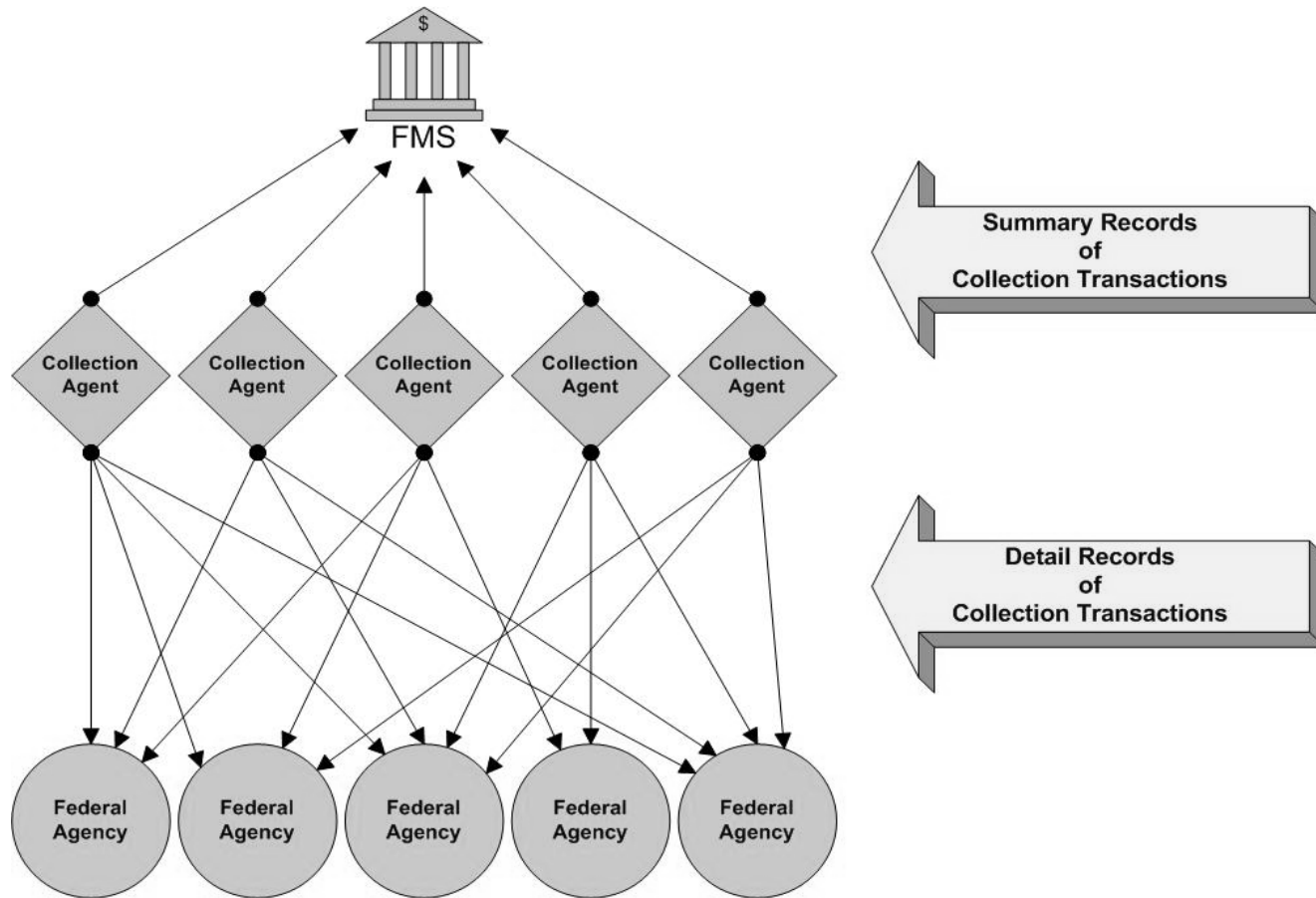
Future Information Flow

Collections Data Warehouse
Architecture

- Consists of a transaction broker, an enterprise data warehouse and several customized data marts

- The TRS Architecture will be based on standard data warehousing products:
  - ETL (Extract/Transform/Load) Tools
  - BI (Business Intelligence) Tools
  - DBMS (database management system)

- Utilize Commercial Off-The-Shelf (COTS) products in all possible cases

- J2EE, wherever custom code is required

Logical Architecture
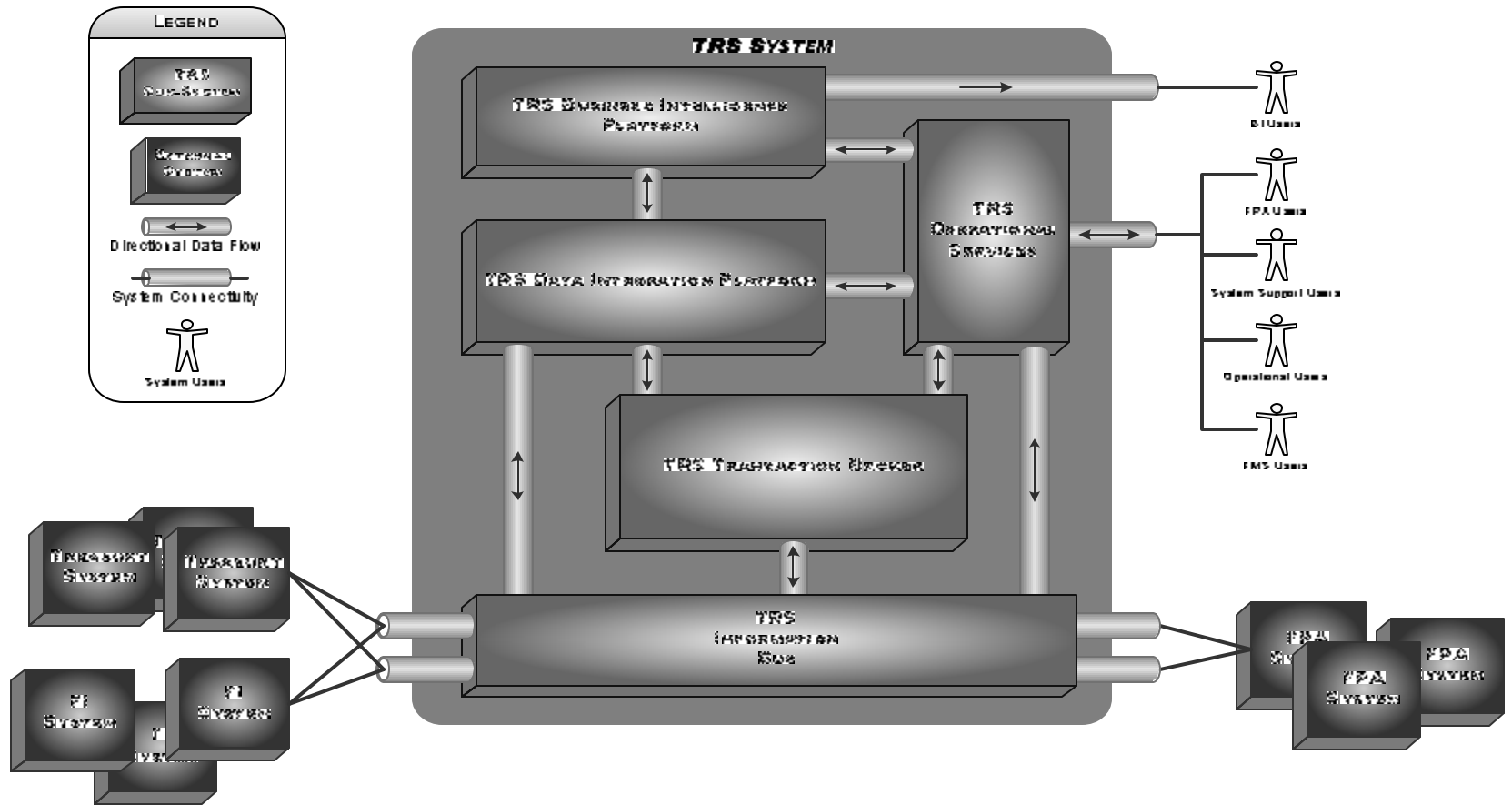
Collections Data Warehouse
Architecture

- Architecturally, TRS will consists of two distinct and integrated components:
  - Transaction Broker
    - Move data in and out of TRS
    - Transform transactional data to standard canonical form
    - Provide operational reporting to oversee data movement
  - Data Warehouse & Business Intelligence
    - Move/transform data within the boundaries of TRS
    - Provide drill-down and analytical reporting
    - Summarize data to support deposit reporting

Collections Data Warehouse
Data Content – Format Types

- Data in TRS falls into two broad categories:
    - Financial Data
        - Information required to settle a transaction, move funds, perform accounting, etc.
    - Program Data
        - Other business data associated with a collection transactions

- The TRS data warehouse will contain static, historical data

- Textual Data will be integrated, stored and reported in TRS

Collections Data Warehouse
Authoritativeness

- TRS will be the authoritative source for all collection transaction information that it receives.

- TRS will not be a "system of records" as defined for privacy purposes.

Collections Data Warehouse
Interfaces

- TRS will utilize various secured web services to interact with business trading partners and end users.

- TRS will receive collections transactions from source systems/trading partners on a daily or more frequent basis.

- TRS will make every attempt to interface with Federal agencies using existing FMS connectivity and HTTPS connections.

- TRS will accommodate existing outbound agency formats while providing the option for agencies to migrate to a standard outbound TRS format (standard XML schema).

Collections Data Warehouse
Deposit Reporting and other CA$HLINK II Functions

- With the next release of TRS, source systems/trading partners will continue to send summary deposit reporting to CA$HLINK II for processing.

- Later, TRS will take over portions of the deposit reporting, eventually replacing some CA$HLINK II functionality.

- TRS will accommodate or derive account classification information to facilitate central accounting reporting requirements (TAS/BETC) codes.

- TRS will not settle transactions or process adjustments.

- TRS will play a future role in cash concentration.

- TRS will eventually provide input into at least the receipts side of the cash forecasting function.

Additional Information

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